Causes for Gasoline & Diesel Price Increases in California

JUNE MONTHLY UPDATE

California Energy Commission

June 1, 2003

Summary

On March 13, 2003, Governor Davis asked the California Energy Commission (Energy Commission) to investigate the causes for the rapid rise in gasoline and diesel fuel prices in February and March. He asked that the Energy Commission issue a report to his office in two weeks and provide a monthly progress update on the first of each month. This is the June 1, 2003 update report.

The past month has been a relatively uneventful one for retail gasoline markets in California. Since the Energy Commission's May 1 Update, retail prices have predictably continued their steady decline from the mid-March high of $2.15 per gallon, declining an additional 22 cents-- from $1.98 to $1.76 per gallon.

Some recent events in wholesale markets, however, may be of potential concern to California gasoline consumers. Crude oil prices have risen by about $4 per barrel in recent weeks, and some local refinery problems reduced California gasoline production by approximately 70 thousand barrels per day in late May. Under different circumstances, these events could have caused retail prices to increase. However, the Energy Commission believes that California retail gasoline prices are still significantly above what could be considered a "normal" range relative to wholesale prices, and therefore should not be impacted by these recent wholesale price events.

In coming weeks, California retail gasoline prices should continue to decline while returning to more normal differentials relative to prices elsewhere. Assuming no significant changes in underlying costs, and not withstanding any new refinery disruptions, California gasoline markets should have completely dissipated the March 2003 price spike by mid to late June.

The Energy Commission will continue to review the petroleum product price trends in California and will provide another update next month.

Current Price Assessment[1]

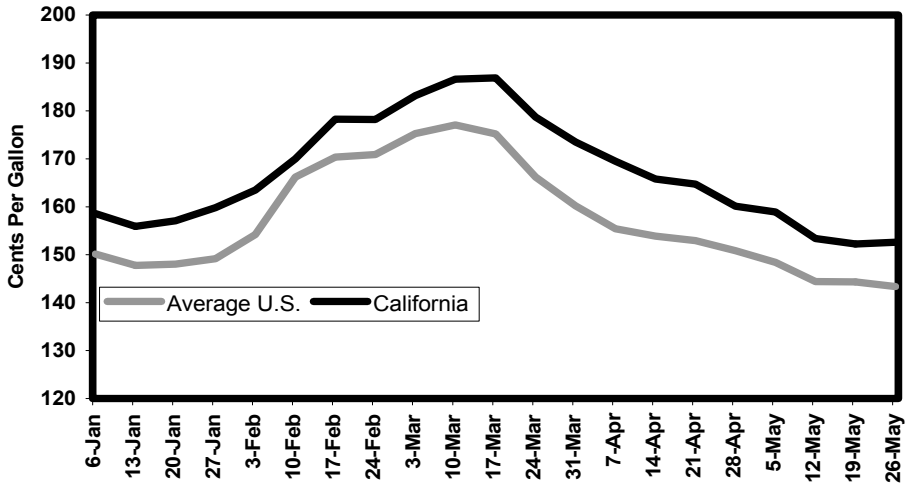
The May 2003 update included weekly data through April 28, 2003. This update incorporates wholesale price data through May 19, 2003 and retail price data through May 26, 2003 — an additional three and four weeks of observations respectively.

Recent California Diesel Fuel Prices

Both wholesale and retail diesel fuel prices have remained fairly constant over the past three weeks throughout the U.S. The nationwide price spike that peaked in mid-March appears to have completely dissipated. In California, retail diesel prices are now very close to their historical averages relative to diesel prices elsewhere in the U.S. Diesel refining and distribution margins are at or near their historical averages as well. California's retail diesel prices are slightly higher than U.S. averages due to tighter emissions requirements and higher taxes.

Figure 1

Retail Diesel Prices - California vs. U.S.
January, 2003 - Present



Recent California Gasoline Prices

Figure 2 compares Los Angeles wholesale gasoline prices with New York prices through May 26, 2003. On May 8, 2003, ten weeks after the $1.52 peak, the average Los Angeles wholesale gasoline price had fallen to a low of 80 cents per gallon. For most of the past month, the Los Angeles wholesale price has been at

[1] Note: All gasoline and diesel price data series in chapters I and II are provided by EIA.

or below the New York price and has remained well below the historical differential of about 12 cents per gallon.

Over the past three weeks, however, nationwide wholesale gasoline prices have been rising gradually due to increasing crude oil prices. In addition, since mid-May, California has been experiencing additional upward pressure on wholesale prices due to two local refinery disruptions. These refinery problems have resulted in a loss to production of about 70 thousand barrels per day (about 7%) but should be resolved by the first week of June.

Figure 2

Wholesale Gasoline Prices - Los Angeles vs. New York
January, 2003 - Present

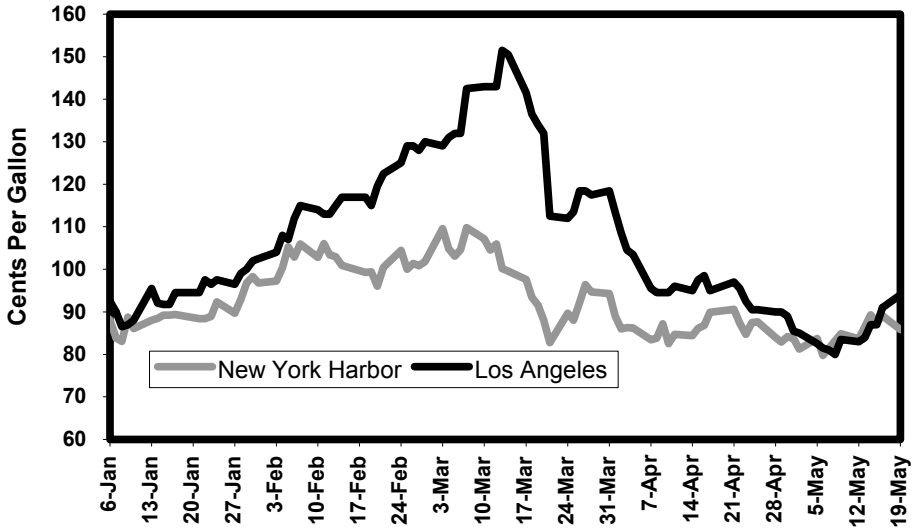


Figure 3 displays retail regular gasoline prices in California as well as the U.S. averages through May 26, 2003. The U.S. average price has remained relatively constant for the past three weeks at approximately $1.50 per gallon. Figure 3 indicates that, on average, U.S. retail gasoline prices have fully recovered from the March price spike. At the same time, California's retail prices continue to fall.

On March 17, 2003, the average retail price of regular gasoline in California was $2.15 per gallon, 42 cents above the national average. Since California prices had further to fall from the March peak, it will take longer for California prices to recover to the more typical price differential of 10 to 20 cents above the U.S. per gallon average price.

Figure 3

Retail Gasoline Prices - California RFG vs. U.S. All Formulations January, 2003 - Present

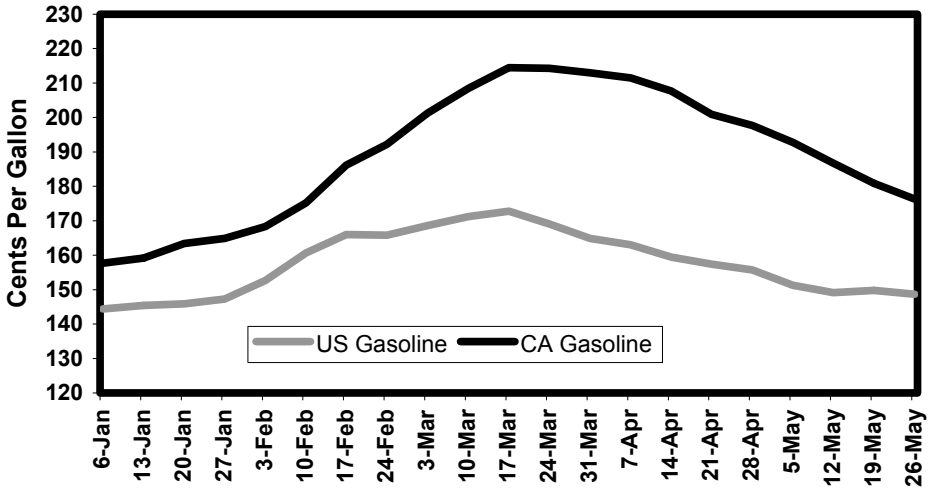


Table 1 compares the decrease in retail prices since the March 17 high between six major cities in the U.S. As in the May report, the average price decline in California has been greater than the six city average. Table 1 over dramatizes the disparity in the price drop somewhat since retail prices leveled off in most areas of the U.S. several weeks ago, while prices in California still have a way to go.

Table 1

Retail City Price Comparison

March 17 – May 26, 2003

	Chicago	Denver	Houston	New York	Los Angeles	San Francisco
March 17	175.6	165.7	159.6	171.9	213.4	219.0
March 24	169.1	165.2	156.7	171.4	213.7	217.5
March 31	160.6	163.2	154.9	169.7	212.8	216.5
April 7	158.4	160.1	151.0	168.4	211.2	214.6
April 14	152.6	154.7	147.5	166.9	208.5	210.4
April 21	155.9	149.9	145.2	165.4	198.6	206.2
April 28	160.9	148.0	141.3	163.5	195.2	203.0
May 5	151.6	144.6	138.2	161.3	191.1	198.6
May 12	151.1	142.9	135.7	159.3	186.3	192.5
May 19	156.6	147.7	135.6	157.5	179.9	188.7
May 26	159.1	146.1	135.3	155.9	174.9	183.6
Total Decline	16.5	19.6	24.3	16.0	**38.5**	**35.4**
Average Total Decline (all cities)	**25.1**					

Since April 14, retail gasoline prices in Los Angeles and San Francisco have been falling steadily at an average rate of about 5 cents per week. If this trend were to continue, within the next two to three weeks California retail prices would return to more historical differentials relative to prices elsewhere.

Retail Gasoline Price Lags and Price Asymmetry

The petroleum production and distribution system is highly fragmented geographically. The entire process of producing a gallon of gasoline from beginning to end includes: the extraction of crude oil, its transportation to refineries, its distillation into gasoline and other petroleum products, and the final distribution to retail dealers through pipelines and tanker trucks. This process occurs over thousands of miles and many weeks.

Just as there are delays in the transmission of inputs (crude oil) to outputs (retail gasoline), there are also delays in the transmission of prices. Specifically, there is usually a several-week lag between increases or decreases in crude oil prices relative to retail gasoline prices. In addition, the lag is usually several weeks longer when crude oil and retail gasoline prices are declining.

Figure 4 displays California retail gasoline prices and Alaska North Slope (ANS) crude oil prices from January 2003 through May 26, 2003.[2] This is a fairly typical example of the relationship between crude oil and retail gasoline prices during a crude oil price spike. Notice that gasoline prices peak several weeks after crude prices peak. Also notice that while crude oil prices fall quickly, retail gasoline prices start falling later than crude oil prices and also fall more slowly.[3]

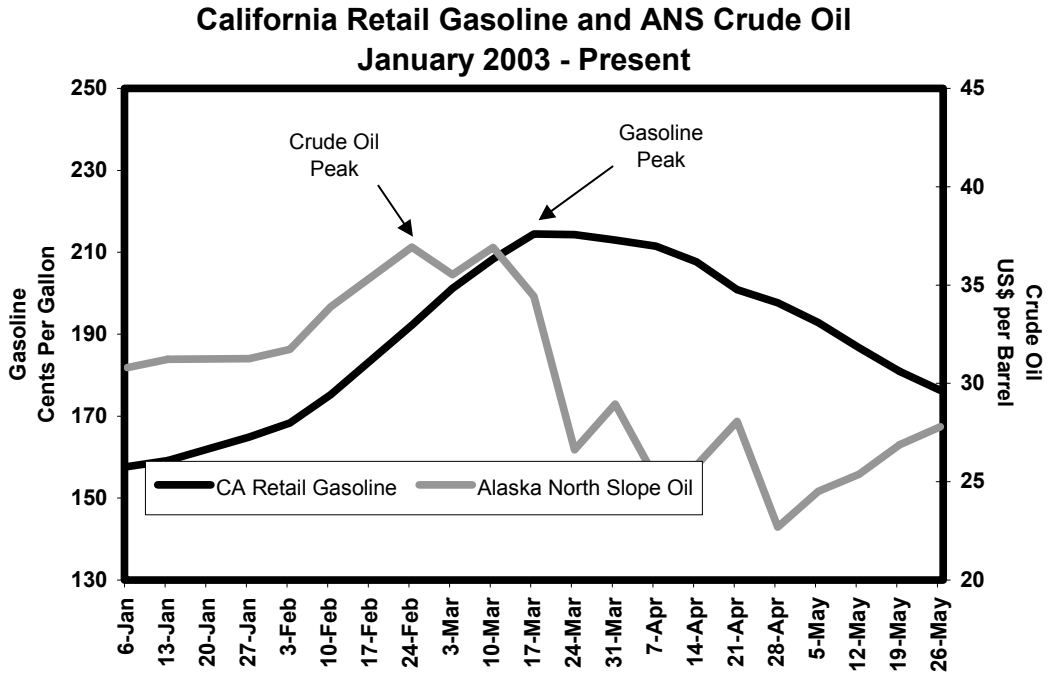
Although there is no consensus among economists as to why retail gasoline prices fall more slowly than they rise,[4] the fact that California's retail gasoline prices have fallen slowly since the March 17 peak is not surprising. Retail prices have fallen slowly throughout the U.S. as well.

[2] ANS Crude Oil prices are sourced from the Wall Street Journal.

[3] It should be noted that it is unusual for crude oil prices to fall as rapidly as they did during recent war in Iraq. The last time crude oil prices fell this quickly was during the Gulf War in 1991.

[4] For example, see Borenstein, Cameron and Gilbert (1997), *Do gasoline prices respond asymmetrically to crude oil price changes?*, The Quarterly Journal of Economics, vol. 112, for an excellent discussion of some of the competing theories on retail price asymmetry.

Figure 4

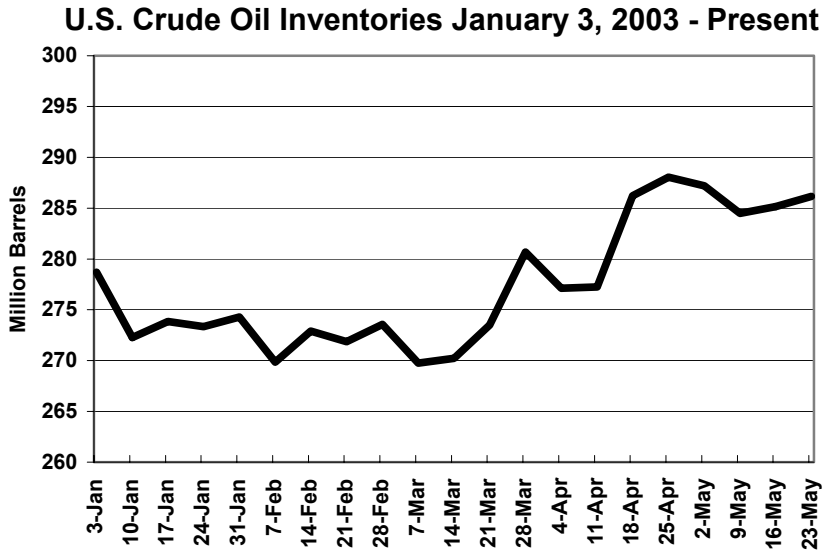


Contributing Local, National and Worldwide Market Issues

Crude Oil Inventories

Figure 5 displays U.S. crude oil inventories from January 3 through May 26, 2003. Crude oil inventories have risen significantly from a 25-year-low of 270 million barrels in early March to a 2003 high of 288 million barrels during the week of April 25. Over the past month, however, U.S. inventories have declined by about 6 million barrels and remain 13% below May 2002 levels. At the present time, the cause of this recent decline in inventories is unclear since imports have remained steady at over 10 million barrels per day. What is clear is that the unexpected decline in crude oil inventories has put upward pressure on crude oil prices.

Figure 5



Crude Oil Prices

Alaska North Slope crude oil prices have recently risen to over $27 per barrel. This represents an increase of about $4 over the April 28 low of $23 per barrel. The increase in crude oil price is due in large part to the lower than expected crude oil inventories discussed above, but is also due to heightened concerns over terrorist attacks in the Middle East following the recent bombings in Saudi Arabia and Morocco. At the present time, it cannot be determined whether this recent upward trend in crude oil prices will continue into the near future.[5]

Gasoline Inventories

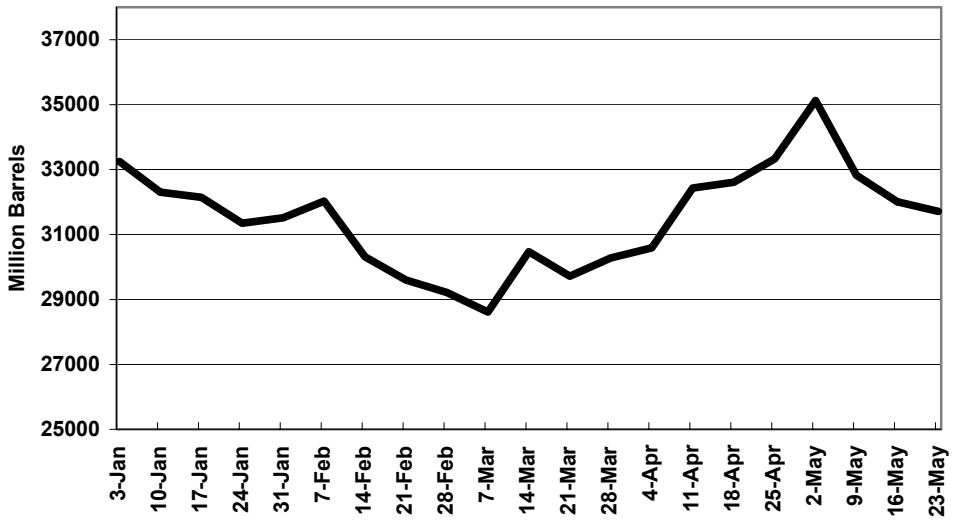
Figure 6 displays total finished gasoline inventories for PADD 5.[6] Since an early March low of 28 million barrels, PADD 5 gasoline inventories increased dramatically to 35 million barrels in early May. Although PADD 5 inventories have declined sharply in recent weeks, they still remain above historical averages for this time of year. The recent decline in inventories is likely a normal market correction to abnormally high inventory levels and should not lead to higher wholesale gasoline prices in and of itself.

[5] Much will depend on whether OPEC will impose further productions cuts. OPEC ministers will next meet in Doha, Qatar on June 11.

[6] Note: EIA publishes weekly gasoline inventories only by Petroleum Area Defense District (PADD), not by state. Since California comprises over 70 percent of PADD 5, the changes in the level of this data series (Figure 6) are good proxy for California. In addition to California, PADD 5 comprises Alaska, Hawaii, Washington, Oregon, Nevada and Arizona.

Figure 6

EIA PADD 5 Finished Gasoline Inventories
January 3, 2003 to Present



Refinery Operations

Following the variety of unplanned refinery disruptions and extended turnarounds which contributed to the gasoline price spike in March, all of California's major gasoline producing refineries have since returned to full service. However, two recently occurring events at different refineries have temporarily reduced gasoline production. These unscheduled disruptions have resulted in a loss to production of about 70 thousand barrels per day (about 7%). It is expected that repairs will be completed at both refineries by early June at the latest, and the cumulative loss to California gasoline production should be approximately 1.2 million barrels.

While under different circumstances, these disruptions might have caused retail gasoline prices to increase, Energy Commission staff believe that California retail prices are still significantly above what could be considered a "normal" range relative to wholesale prices and should not be impacted by these recent refinery problems.

California Fuel Costs and Apparent Margins

At the outset, it is important to make a clear distinction between the cost of producing a gallon of gasoline and the ultimate price in the marketplace for that same gallon. If the market is competitive, prices will equal the actual production and distribution costs plus a fair profit margin for refiners, distributors, and retailers. As in all other volatile commodity markets, however, this relationship will only hold on average.[7]

California Retail Gasoline and Diesel Cost Analysis

Tables 2 and 3 show a breakdown of the cost components of a typical gallon of gasoline or diesel fuel for: the most recent month, the same month one year prior, and for all years since 1997. After netting out all taxes and crude oil costs, the bottom two rows of both tables display the implied refining and distribution margins.[8] "Refiner Costs and Profits" are the gross margins of refiners inclusive of all production costs other than the cost of crude oil.[9] "Distribution Costs, Marketing Costs, and Profits" are the gross margins of petroleum marketers and distributors who transport petroleum product from distribution terminal to retail stations and also include all transportation costs.[10]

[7] The following data sources were utilized in preparing the tables in chapter III; diesel and gasoline branded and unbranded rack prices are provided by OPIS, all retail prices are provided by EIA, and ANS crude oil prices are provided by the Wall Street Journal.

[8] Most branded retail gasoline stations are operated by franchise dealers who must purchase their gasoline from a major branded refiner at the Dealer Tankwagon (DTW) price. DTW prices are determined by the branded refiners and include all delivery costs. Because the "Distribution and Marketing Costs" in the table below are derived from terminal rack prices and not DTW prices, an actual dealer margin, inclusive of costs and profits, cannot be inferred. Since the Energy Commission does not collect DTW prices, we cannot confirm the extent to which DTW prices differ from OPIS branded rack prices.

[9] "Refiner Costs and Profits" includes all non-crude oil costs associated with refining and terminal operation, crude oil processing, oxygenate additives, product shipment and storage, oil spill fees, depreciation, purchases of gasoline to cover refinery shortages, brand advertising, and profits. The component is calculated as the difference between the Oil Price Information Service (OPIS) average rack price of gasoline and crude oil cost.

[10] "Distribution Costs, Marketing Costs, and Profits" includes all costs associated with the distribution of petroleum product from distribution terminals to the ultimate retail consumer. These costs include: franchise fees, and/or rents, wages, utilities, supplies, equipment maintenance, environmental fees, licenses, permitting fees, credit card fees, insurance, depreciation, advertising, and profits.

Table 2

California Gasoline Cost Analysis

	Branded Gasoline			Unbranded Gasoline		
	May 2003	**May 2002**	**1997 - Present**	**May 2003**	**May 2002**	**1997 - Present**
Retail Prices	1.84	1.57	1.48	1.84	1.57	1.48
Federal Excise Tax	0.18	0.18	0.18	0.18	0.18	0.18
State Excise Tax	0.18	0.18	0.18	0.18	0.18	0.18
State and Local Sales Tax	0.14	0.12	0.11	0.14	0.12	0.11
Crude Oil Cost	0.62	0.62	0.51	0.62	0.62	0.51
Refiner Costs and Profits	**0.46**	**0.38**	**0.40**	**0.28**	**0.27**	**0.34**
Distribution Costs, Marketing Costs, and Profits	**0.26**	**0.09**	**0.10**	**0.44**	**0.20**	**0.16**

Table 3

California Diesel Cost Analysis

	Branded Diesel			Unbranded Diesel		
	May 2003	**May 2002**	**1997 - Present**	**May 2003**	**May 2002**	**1997 - Present**
Retail Prices	1.54	1.41	1.45	1.54	1.41	1.45
Federal Excise Tax	0.24	0.24	0.24	0.24	0.24	0.24
State Excise Tax	0.18	0.18	0.18	0.18	0.18	0.18
State and Local Sales Tax	0.10	0.09	0.09	0.10	0.09	0.09
Crude Oil Cost	0.62	0.62	0.51	0.62	0.62	0.51
Refinery Costs and Profits	**0.20**	**0.13**	**0.26**	**0.19**	**0.12**	**0.26**
Distribution Costs, Marketing Costs, and Profits	**0.20**	**0.15**	**0.17**	**0.21**	**0.16**	**0.17**

Petroleum Industry Information - Response to Information Requests

In its March 28 report to the Governor, the Energy Commission identified some inadequacies in current industry data reporting requirements and discussed the need to broaden existing data-collection efforts. This more detailed and frequent level of data collection is necessary to improve the Energy Commission's ability to assess and respond to petroleum issues accurately. The Energy Commission is especially concerned about the potential for supply problems during the 2003 summer driving season with two different and non-fungible formulations of California gasoline in the market place (CaRFG with MTBE vs. CARBOB with Ethanol).

While a rulemaking proceeding to obtain the required information is currently underway, the formal adoption will not be concluded until late 2003 or early 2004. In the interim, the Energy Commission has requested the voluntary compliance of the petroleum industry in providing the necessary data. Although the Energy Commission has received some partial, voluntary compliance since the March 28 request, it has not been of sufficient scope or frequency to meet the needs of the Energy Commission. As a result, the Energy Commission is considering an emergency rulemaking process to expedite the acquisition of the required data.